

*Entered Amendment
12/10/01*

IN THE CLAIMS:

Please amend the claims as follows:

1. (Twice Amended) A method of controlling [[the]] torque transferred across each of the two clutches of a dual clutch transmission during a two-gear positive downshift, wherein the first of the two clutches drives an initial gear and the final gear and the second of the two clutches drives an intermediate gear, said method including the steps of:

sensing the speed of [[the]] a driven member of the first clutch in the initial gear;

sensing the speed of [[the]] a driven member of the second clutch in the intermediate gear;

estimating the speed of [[the]] a driven member of the first clutch in the final gear;

determining a desired clutch torque and slip profile for the changeover of the clutches;

determining a target engine speed profile based on the speed of the driven member of the first clutch, the speed of the driven member of the second clutch, the estimated speed of the driven member of the first clutch for the final gear, and the desired clutch torque and slip profile;

simultaneously controlling the torque transfer across each clutch so that [[the]] torque output of the transmission will be changed over from the first clutch to the second clutch by linearly decreasing the torque transferred across the first clutch while linearly increasing the torque transferred across the second clutch in an inversely proportional rate to follow the desired clutch torque and slip profile and to cause the engine to track the target engine speed profile;

change over the gears driven by the first clutch by disengaging [[the]] a synchronizer of the initial gear and engaging [[the]] a synchronizer of the final gear as the engine tracks the target engine speed profile and the first clutch is slipping at a greater rate than the second clutch;

simultaneously controlling the torque transfer across each clutch so that the torque output of the transmission will be changed back from the second clutch to the first clutch by linearly